

## **Memorandum of Understanding**

This Memorandum of Understanding (MOU) is entered into this \_\_\_\_ day of September, 2018, by and among the Wisconsin Department of Natural Resources (DNR), Juneau County, Wood County and the Armenia Growers Coalition LLC.

### **Background**

WHEREAS Juneau and Wood County (the “Counties”), in the interest of ensuring their residents have access to safe drinking water, have tested private potable wells in the Counties and identified wells that had water quality that exceed the state drinking water standard of 10 mg/L for nitrate.

WHEREAS the Armenia Growers Coalition, LLC (“AGC”) represents three farms that are currently the predominant farmers in the agricultural corridor that is west of the Wisconsin River, south of Port Edwards, north of Necedah, and east of several state natural and wildlife areas (the “agricultural corridor”). This area is outlined on the attached map marked Exhibit A.

WHEREAS AGC, in receipt of the aforementioned testing results, has voluntarily coordinated and collaborated with the Counties on a response effort to offer residents in the agricultural corridor with wells testing at or above 10 mg/L for nitrates an in-home point-of-use water treatment system and bottled drinking water until installation of such a system (the Clean Drinking Water Plan).

WHEREAS the “nitrate impacted” is defined for well water having nitrate concentrations that are at or above 10.0 mg/L through a series of 3 tests throughout the year. Wells having concentrations at 8.0 mg/L or above will be tested at a minimum of three separate periods to ensure that the timing of any individual test would not bias the results

WHEREAS a “water test” is defined as a well water sample collect by or verified by a County employee and the nitrate concentration is determined by a state certified/DNR approved lab. Any test result that can’t be verified will be re-tested to ensure quality.

### **Agreement**

The process the Parties agree to follow to implement the Clean Drinking Water Plan is as follows:

1. All potable wells will be sampled for nitrates in the “study area” (Exhibit B) over the course of 2 years (2018 to 2020). There are 1209 addresses located in the study area (823 in Juneau and 386 in Wood). Not all addresses have private wells. For the purpose of this MOU, we are assuming there are 700 wells in the study area

or 596 wells remaining to be sampled. Whenever a well in the study area is determined to be nitrate impacted, it shall be covered by this MOU.

2. For private residential wells located in the study area that have been identified by the Counties to contain nitrates in concentrations at or above 10mg/L ("nitrate impacted") it is understood that:
  - a. The Counties provide AGC a confidential list of addresses for each of the wells they have identified as nitrate impacted.
  - b. AGC will send a letter to each identified well owner, making an offer to provide bottled water and evaluate options to ensure safe drinking water. The primary option at this time is the installation and maintenance of a water treatment system.
  - c. If AGC does not hear from a homeowner letter recipient within one week, it will send a follow up correspondence.
  - d. If AGC does not hear from the homeowner within a week of sending the second communication, it will notify the Counties of same and the Counties will then assume primary responsibility for contacting the homeowner regarding the Clean Drinking Water Plan. The lack of successful contact with a homeowner does not preclude the homeowner from accepting AGC's offer at a later date, provided that within the previous twelve (12) months a County-verified water test indicates the home is nitrate impacted.
3. Water Treatment System, for purposes of this MOU, means a reverse osmosis or a similar treatment system that is certified by the Wisconsin Department of Safety and Professional Services and will reduce nitrates in drinking water to below 10 mg/L to be professionally installed by a licensed professional selected by AGC. This system will provide drinking water to a spigot located at the kitchen sink and/or, depending on water pressure requirements, appliance compatibility, and the recommendation of the licensed plumber, the refrigerator. This system will be sampled initially by the homeowner with training from the Counties and then sampled quarterly by the homeowner for as long as it takes to ensure adequate operation and determine long term operational cost.
4. If contacted by a homeowner in the agricultural corridor with a nitrate impacted residential well that has been identified by the Counties, AGC will take three (3) actions:
  - 1) Offer, at no cost to the homeowner, to install a Water Treatment System that will bring their drinking water under the 10 mg/L limit, so long as a licensed plumber, chosen by AGC, determines the homeowner's well and

plumbing is code compliant and reasonably compatible with the Water Treatment System;

2) Offer to immediately send the homeowner a two week supply of drinking water. If the homeowner accepts the offer of a Water Treatment System within two weeks, then AGC will continue to supply the homeowner with drinking water until the Water Treatment System is installed and verified to produce drinking water under the 10 mg/L standard for nitrates. Homeowners that do not accept the offer of a Water Treatment System within two weeks will not receive further drinking water from AGC. AGC will be invoiced directly for the Water Treatment System and drinking water deliveries.

3) Mitigation will continue through the offer of bottle water to those homes that do not have well and plumbing that is code compliant or not reasonably compatible with the Water Treatment System until an alternative solution can be determined and agreed upon by all parties or their well water no longer is nitrate impacted as indicted through 3 separate samples. This can include the development of a replacement well.

- i. For homeowners that accept the offer of a Water Treatment System, a licensed plumber will be dispatched to the home as soon as practicable to conduct an inspection. The plumber will enter the home only after the homeowner has signed a simple access agreement. Upon completion of the inspection, the licensed plumber will send a report of the inspection to the homeowner, the WDNR, the Counties, and AGC. Any necessary well or plumbing repairs identified by the inspection will be reported and potential improvements or alternative options will be discussed among parties, while bottle water is continued to be provided to the homeowner.
- ii. Homes with plumbing and wells meeting the requirements for a Water Treatment System will have a Water Treatment System installed by a professional installer as soon as practicable. After the installation of the Water Treatment System, the professional installer, Counties and the homeowner will together take a sample of the drinking water and provide their initials on the sample. The sample will then be tested by a DNR certified laboratory for nitrates. The results of the water test will be shared with the homeowner, professional installer, and the Counties. If the water test indicates nitrates are below 10 mg/L, drinking water deliveries will cease to the homeowner. If the test indicates nitrates are at or

above 10 mg/L, AGC will continue to provide drinking water deliveries and work with the homeowner to ensure a Water Treatment System is installed and is not nitrate impacted. A water test of the treated water will be tested quarterly for two years by the homeowner (with County assistance) and paid for by AGC to ensure efficiency of the Water Treatment System and to identify potential long term cost of operations, which shall be paid by AGC.

5. Long term monitoring of the study area will be conducted through random testing of 50 wells each year for 10 years. These wells were not identified as nitrate impacted through the initial testing and is done to ensure that well-water nitrates are not continuing to rise or further issues are identified.
6. Given the condition of the groundwater quality and the limited knowledge of the extent and depth of potential nitrate impacted groundwater, all parties will collaborate to develop a groundwater study plan to identify potential long term solutions through water tests and modeling. Goals of this study include: 1) Identifying depths of safe/non-nitrate impacted water for wells to be potentially established; 2) Identify the sources and "age" of the groundwater to identify likelihood that water will remain non-nitrate impacted; and 3) Define guidelines for any new homes or land use changes to ensure safe drinking water to residents or future groundwater users.
7. Develop a producer-led groundwater program, where the AGC and other growers will work with the State and Counties to identify agricultural practice changes that will begin to reduce the nitrogen loading to the soil in the area identified, while maintaining the agricultural businesses. These practice changes will be evaluated for water quality improvements with the practice changes defined and shared. Practice changes may include but are not limited to changes in crop rotations, reductions of nitrogen applications, changes in the timing of applications, and the use of cover crops. In addition, educational programs will be developed for residents in the impacted area to describe the changes that are being made and the goal of the program.

#### **Estimated Sampling and Data Management Costs**

This MOU identified sampling and data management needs that are above and beyond the financial support that can be provided by the Counties. In order to accomplish the intent of the MOU, it was identified that all wells will be sampled in the study area, with half the first year and the remainder the second. In addition, those wells that had 8mg/L nitrate or greater will be sampled 3 times to ensure the well water is not nitrate impacted and those wells that received water treatment systems will have their treated water tested quarterly for two years to ensure functionality of the system and identify long term operational cost. The approximate costs associated through the MOU have

been identified as follows based on the assumption that there are 700 wells in the study area:

**Year 1 (2018-2019):**

Year 1 Sample numbers (includes initial testing of wells)

298 wells to be sampled (half of 596)

44 treatment systems to test (4 samples each)

18 wells at 8mg/L (3 samples each)

528 samples the first year from start of MOU

\$16.00 Cost per sample at UWSP

**\$10,000** Sampling Cost Year 1

**\$100,000** Personnel Costs (including travel costs and initial county computer

Also to be included is personnel time to manage the project and take the initial samples. This included 3 part time contract employees and one 85% time employee with a college degree. The personnel cost is:

Year 1 Total: \$110,000

**Year 2 (2019-2020)**

Year 2 Sample numbers

298 wells to be sampled (half of 596)

175 wells with treatment (4 samples)

18 wells at 8mg/L (3 samples)

1016 samples the second year

8 Cost per sample from County

**\$10,000** Sampling Cost Year 2

**\$98,500** Personnel Costs (including travel)

Year 2 Total: \$108,500

**Year 3 (2020-2021)**

Year 3 Sample numbers

262 wells with treatment to be sampled second season (4 samples)

50 homes randomly sampled

1098 samples the third year

8 Cost per sample from County

\$10,000      Sampling Cost Year 3

\$56,000      Personnel Costs (including travel)

Personnel costs drop in year three to just the 85% county staff person to manage the homeowner sampling, take the 50 samples, and work on study to improve groundwater quality.

Year 3 Total: \$66,000

#### **Year 4 (2021-2022)**

Year 4 sample numbers

131      wells with treatment to be sampled second season (4 samples)

50      homes randomly sampled

574      samples the fourth year

8      Cost per sample from County

\$5,000      Sampling Costs Year 4

\$56,000      Personnel Costs (including travel)

Year 4 total: \$61,000

#### **Years 5-10 (assuming all treatment systems are working)**

50 homes randomly sampled

8      Cost per sample from County

\$400      Sampling Costs

\$55,000      Personnel Costs (including travel)

Year's 5-10 annual totals: \$55,500

#### **Estimated Cost of Groundwater Study**

This study, described above in Paragraph numbered 6, includes collaboration with DNR, USGS, Universities, and EPA to develop a groundwater decision tool/nitrate susceptibility model for the study area. This includes developing test wells to document nitrate movement, age of the groundwater, and verification of new well depth recommendations. In addition, this study will aid with the long term goal of reducing nitrates in the groundwater through conservation practices or on-farm management changes. The total cost will be approximately \$250,000, to be paid by AGC.

Groundwater Study Total: \$250,000

### General Conditions

1. The Parties will each designate a representative to lead and coordinate implementation of this MOU, including communication, representation and participation.
2. No Admission of Liability.
  - a. The Parties acknowledge that this executed MOU presents a reasonable and voluntary approach providing clean drinking water for residents of the agricultural corridor;
  - b. All Parties understand, acknowledge and agree that this MOU is voluntarily entered and is not to be construed as an admission of any liability, responsibility or wrongdoing whatsoever on the part of any party or its members, collectively or individually, any and all such liability is expressly denied and defenses expressly reserved.
3. In the event this MOU is not adhered to, it is understood the entire matter may be referred to the EPA and /or the WDNR for enforcement by those agencies as they see fit.
4. Notice under this initial MOU shall be as follows:
  - a. AGC: [Insert Contact]
  - b. Juneau County: [Insert Contact]
  - c. Wood County: [Insert Contact]
  - d. WDNR: [Insert Contact]
5. The Parties further agree that this MOU may be amended in the future as necessary to implement the Clean Water Plan, but such amendment shall only be effective in a writing signed by all parties then participating and agreeing to be so bound.
6. By signing below, each signatory represents and warrants that he or she has the authority to enter into this initial MOU and to so bind the respective party. This may be executed in counterparts and as so executed shall constitute one agreement binding on the Parties. Delivery of an executed counterpart of this initial MOU by email or other electronic means will be equally as effective as delivery of a manually executed counterpart of this initial MOU.
7. This initial MOU is effective as of the date listed above, [Insert Date].

[SIGNATURES ON NEXT PAGE]